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Research Article

Adherence to the Mediterranean Diet by Italian Outpatients Suffering from Overweight or Obesity: Its Assessment and Implementation through Active Lifestyle Change

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Abstract

Mediterranean Diet (MD) is a nutritional pattern that is beneficial to health, both for people with already established disease and as primary and secondary prevention. However, adherence to this pattern is likely to be poor: it is important to provide Patients with tools, strategies and methods to help them internalize a conscious and lasting change in their eating habits. In this article, we offer hypothetical practical suggestions to help Patients who suffers from obesity or overweight and who visit a nutrition clinic for weight loss and control, to adhere to the DM immediately and subsequently. Without actively and consciously internalizing changes in one's habits, a prescribed diet cannot have lasting and consolidated positive effects. A paternalistic and totally prescriptive medical approach would not ethically respect Patient's autonomy.

Keywords: Mediterranean Diet, Obesity, Overweight, Compliance, Adherence to the Mediterranean Diet, Lifestyle, Nutritional Pattern, Doctor-Patient Relationship, Bioethics of Care

Introduction

Mediterranean Diet consists of a dietary pattern belonging to the cultural tradition of countries bordering the Mediterranean Sea. It was recognized in 2010 as intangible cultural heritage by UNESCO. Scientifically, it is one of the most studied nutritional patterns for the prevention of chronic degenerative diseases and the promotion of longevity, recommended both at the primary and secondary preventive level and at the therapeutic level. In terms of composition, it is characterized by a high consumption of plant-based foods: whole grains, legumes, fresh fruit, seasonal vegetables, nuts, and oilseeds are recommended on a daily basis. Extra virgin olive oil provides a high intake of monounsaturated fatty acids, particularly oleic acid, and antioxidant compounds. Consumption of fish, white meat, and dairy products is moderate, while red meat and processed products are severely restricted. Evidences currently available show that total and cardiovascular mortality can be reduced when the Mediterranean diet is followed precisely [1]. The prospective PREDIMED study shows that a nutritional intervention based on the Mediterranean diet reduces the risk of major cardiovascular events by approximately 30% in high-risk individuals [2]. Further data confirm beneficial effects on blood pressure, LDL cholesterol, triglycerides, insulin sensitivity and glycemic control [3,4]. It is a nutritional pattern with a high fiber content, which promotes glycemic control and modulation of the intestinal microbiota, also contributing positively to regular bowel movements. The Mediterranean pattern also stands out for its environmental sustainability, thanks to the prevalence of plant-based foods, the promotion of local produce with a reduction in the

environmental impact of transport, and a significant reduction in highly processed products.

Compliance with the Mediterranean diet is an important indicator in nutritional research, as higher levels of adherence are associated with better health outcomes in different populations [5]. In recent decades, numerous studies in Italy and internationally have developed and applied compliance measurement scales and analyzed determining factors, highlighting adherence trends, socio-demographic determinants, and implications for public health. A standardized approaches to assessing adherence is the Mediterranean Diet Score (MDS), based on traditional dietary recommendations such as high consumption of vegetables, fruit, legumes, whole grains, olive oil, and moderate consumption of fish and wine [6]. In Italy, observational studies document a progressive decline in adherence to the Mediterranean diet in recent generations, which tend to follow more "Western" dietary patterns, characterized by higher consumption of ultra-processed foods and added sugars. This trend has been associated with an increase in the prevalence of obesity and metabolic syndrome in some Italian areas [7]. Compliance with the Mediterranean diet is influenced not only by individual factors but also by environmental and political determinants: economic access to fresh foods, pricing policies, and food marketing play a role in daily food choices [8]. Educational programs and public health interventions promoting the Mediterranean diet, both in Italy and abroad, show positive effects on adherence, particularly when supplemented with nutritional counseling [9]. In Italy, compliance with the Mediterranean diet is commonly assessed using structured questionnaires such as the Mediterranean Diet Score and Medi-Lite, which are short, self-administered tools that assign a score based on the consumption of key foods (e.g., vegetables, fruit, cereals, legumes, fish, olive oil) [10]. These tools, developed and validated in Italian populations, allow for a quantitative estimate of adherence and are often used in epidemiological surveys to compare socio-demographic groups or geographical areas.

Methods and Results

For this study, we evaluated adherence to the Mediterranean diet among 89 Italian adult outpatients who autonomously requested a diet from a dietitian for weight loss. The clinic is located in the province of Verona. The inclusion criteria for observation were: adulthood, overweight or obesity, and absence of pregnancy, with a first visit carried out in the year 2025, without medical indications for drug therapies or bariatric surgery for the treatment of obesity (and therefore with outpatient therapy based on diet and lifestyle). The tool used was the "Medi-Lite Questionnaire", originally published in 2014 and clinically validated in 2017 as a practical and reliable tool for measuring individual adherence to the Mediterranean Diet [12]. The questionnaire consists of 9 closed-ended questions, completed with information obtained from Patients' nutritional history provided during the first visit. The questionnaire includes an assessment of the presence in the diet of nine food groups relevant to the Mediterranean pattern: fruit, vegetables, cereals, legumes, fish, meat and meat products, dairy products, alcohol, olive oil. The questionnaire score can range from 0, indicating low adherence to the DM, to 18, indicating high adherence to the DM. It is interpreted indicatively as follows: a score above 13 indicates excellent adherence to the Mediterranean Diet, a score between 10 and 12 indicates moderate adherence to the Mediterranean Diet, and a score below 10 indicates poor adherence to the Mediterranean Diet. In particular, a low score indicates a diet more similar to the Western model. Unlike the Mediterranean model, the Western diet is characterized by a high intake of saturated fats, a high carbohydrate load, and a low fiber intake. Furthermore, according to some data, low adherence to DM is associated with a higher risk of abdominal obesity and a worse metabolic risk profile compared to higher scores [11].

The average score for the 98 patients involved was 9.2, indicating poor overall adherence to the Mediterranean diet. In particular, this was often determined by a low or absent presence of legumes and fruit, low consumption of fish, excessive consumption of meat and especially red or processed meat, and daily consumption of packaged cookies and sweets.

Discussion

The purpose of this observation is to reflect on the proper approach to a dietary program for weight loss in adults who suffer from obesity or overweight, after detecting poor adherence to DM. As about obesity, it is a chronic, multifactorial condition characterized by excessive accumulation of adipose tissue that compromises health. According to the World Health Organization (WHO), it represents one of the main global health challenges in terms of prevalence and impact on chronic noncommunicable diseases. The etiology is complex and involves interactions between genetic, epigenetic, environmental, behavioral, and socioeconomic factors [12]. Variants in genes involved in regulating appetite and energy metabolism, such as FTO and MC4R, increase individual susceptibility [13]. However, phenotypic expression is strongly dependent also on the obesogenic environment, characterized by high availability of energy-dense foods and reduced physical activity [14]. Pathophysiological mechanisms include insulin resistance, low-grade chronic inflammation, and alterations in neuroendocrine signaling between the gut, adipose tissue, and central nervous system [15]. Gut microbiota and psychosocial factors further contribute to metabolic dysregulation [16]. Obesity increases the risk of type 2 diabetes (T2D), cardiovascular disease, and even certain cancers [17]. Therefore, management requires integrated approaches that combine nutritional interventions, physical activity, psychological support, and, in selected cases, drug and/or surgical therapy. Any risk of obesity stigma should

be overcome [18,19] and a dialogical, respectful, empathetic Doctor-Patient relationship should be established. Although there is extensive scientific literature on assessing adherence to DM and the negative impact of poor adherence on health, there are fewer references available on structuring effective therapeutic strategies to implement it. The available data are encouraging [20,21].

Within this complex management, it is important to understand that the dietary approach should not be prescriptive and based on an idea of "willpower". Simply providing a prescribed diet chart seems not to be sufficient to change Patient's habits [22]. In order to guide a Patient towards healthy changes in nutritional habits and proper adherence to Mediterranean Diet, additional incentives can be provided in addition to a personalized diet plan. All steps should also be carried out within the context of an ethical and dialogical Doctor-Patient relationship: the general clinical situation, and especially excess weight, should never be judged or considered a "fault", in line with the latest scientific findings. Obesity is a complex, multifactorial, and chronic condition, and Patients should be provided with comprehensive, clear, and transparent information about its implications and the available treatment options. In cases of severe or very severe obesity, the Patient should be informed of the realistic possibilities and limitations of dietary and lifestyle interventions, opening up the possibility of evaluating drug therapies or bariatric surgery if indicated. Expectations regarding weight loss through a moderately low-calorie Mediterranean approach should be shared with the Patient in a comprehensive and clear manner, answering any questions or concerns, avoiding unrealistic or unhealthy expectations. In general, within a Mediterranean pattern, personal tastes, organizational and family needs, work rhythms, and ethical or religious preferences should always be respected. This means that Patients should be educated to understand the meaning and balance of an overall healthy dietary pattern, rather than being forced to follow a specific, mandatory dietary regimen. In fact, if you understand the overall meaning and benefits of the proposed changes, you will be able to adapt them to your own needs by internalizing change and playing an active role. Then, a Doctor-Patient relationship based on dialogue and mutual trust can be defined as ethical and fully respectful of the dignity and autonomy of the individual.

In order to support a deep understanding of the Mediterranean pattern, outpatients can be offered ideas and methods for implementing it in their daily dietary choices. For example, Doctor can introduce them to the general principles of the Mediterranean diet, so that they can gradually learn to apply them independently and gradually incorporate them into their daily eating habits. In particular, we would like to highlight: daily consumption of seasonal vegetables and fresh fruit, importance of whole grains, legumes, extra virgin olive oil, and oilseeds, careful selection and limitation of refined fats and sugars, adequate hydration and active lifestyle, proper chewing, variety in food choices, respect for seasonality, preference for local products, regular meals, balance with special occasions, and healthy conviviality. All of this should be understood and actively applied, rather than being only prescribed without full understanding and agreement. With a deep understanding and by taking an active role, Patient may be able to maintain the changes made in the long term. All information should be provided in a way that can be fully understood, adapting the information to the Person's vocabulary and socio-cultural background, avoiding technical terms or overly didactic and unengaging teaching methods. Doctors could produce and provide engaging content aimed at Patients on the Mediterranean diet and lifestyle [24]. These last suggestions are intended to assist the individual in maintaining regular, controlled, and pre-planned meals. For completeness, let us remind that, when emotional eating or eating disorders associated with excess weight (such as Binge Eating Disorder, BED) are clearly detected and diagnosed, it is important to coordinate multidisciplinary therapy, including the presence of an experienced psychotherapist [25].

Finally, it is important to understand that such Patient engagement is indicated for both clinical and ethical reasons. In fact, changing one's lifestyle is a profound and complex process that requires respect and reinforcement of the abilities of each individual. Putting the Person at the center, with a model based on the Person and not the diagnosis, requires empathy and competence from the Doctor. The inherent dignity, autonomy, and self-determination of Patients should always be respected and promoted, building and sustaining a Physician-Patient relationship based on listening, transparent communication, and mutual trust. Offering tools, content, and strategies to understand a dietary path in depth is not a secondary point, but rather an implementation of support and respect for the choices and autonomy of each Person. Every individual aspect should be taken into consideration, including cultural and cognitive skills, social belonging, ethical choices, religious faith, psychoemotional mechanisms, family habits, and daily organizational needs: there is no single "dietary table" that applies to everyone, but the Doctor has a professional duty to personalize each individual path, always putting the Patient's health, their best possible good, and clear, exhaustive, scientific, and empathetic communication at the center. The evaluation of a diet's results should not be imposed from above in a paternalistic manner, but rather discussed and shared with the Patient in a respectful manner. The same applies when evaluating and addressing obstacles to weight loss and any setbacks within a nutritional and lifestyle modification program.

Conclusions

Obesity and overweight are complex conditions that should be addressed by healthcare professionals with competence and professionalism. A paternalistic and solely prescriptive approach

is insufficient to bring about a significant change in Patient's overall nutritional attitudes, potentially leading to unsatisfactory results. Furthermore, respect for the Patient's autonomy and dignity requires a cooperative, dialogical, and empathetic Doctor-Patient relationship. With regard to the structuring of an outpatient medical diet plan, it seems important to support proper adherence to the Mediterranean Diet. To place the Patient at the center as the protagonist of an interiorized change, with an active role day by day, it is possible to provide them with ideas, tools, and methods that help them adapt the Mediterranean pattern to their specific personal needs. In this article, we propose the importance of adapting the basics for overall solid adherence of Patients to DM in an informative way, using simple, engaging, and concise language, also with the help of possibile multimedia content, always based on constantly updated scientific data. Well-designed scientific studies with adequate population samples are desirable to refine the overall considerations.

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24. See https://www.youtube.com/playlist?list=PLKAY2im9kFQNDv2N9YHPJ0OpNFQAmxB8r [Italian language mainly]. In this case, short videos with music and animation try to accompany Patients with general advice on incorporating the basics of DM management into their lifestyle. The language is straightforward, the style is engaging, and the content is scientifically based but presented in a simple and accessible manner. With other playlists, Patients can also be offered imaginative and tasty recipes that comply with DM. Then, general relaxation exercises (which do not constitute psychotherapy) are also offered in this case as distracting activities to manage moments of unplanned food consumption or as a response to negative emotions.
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